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PRELIMINARY REPORT

ECONOMIC IMPLICATIONS OF THE DENIAL OF MIDDLE EAST OIL

DEPARTMENT OF STATE

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SUMMARY

1. The Middle East is potentially the Free World's most important petroleum area. It contains the bulk of the proved oil reserves, is the principal oil exporter and is second only to the U.S. in oil production. Middle East oil now supplies nearly one-half of Free World oil requirements (excluding the U.S.). Western Europe is almost entirely dependent on that area for its crude oil supplies.

2. If the oil-producing and oil-transit states in the Middle East deny oil to the Western nations, they could, with their own manpower and resources, operate their oil industries at a low level but sufficient to meet their own limited needs. The principal weakness of these states is not in production but in the lack of their own tankers to move the oil and the distribution facilities to market it in the Free World.

3. The Sino-Soviet Bloc is capable of assisting the oil states with respect to skilled personnel, know-how, materials, and equipment. But, since the Bloc is a net exporter of petroleum, it is unlikely that the Bloc could absorb any significant quantities of Middle East oil without a corresponding cutback in Bloc production. Moreover, the relatively few Bloc tankers represent a maximum lift capability of only about one-tenth of the current Middle East output.

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4. Denial of Middle East oil would involve serious dislocations of supplies for the West, necessitating governmental and inter-governmental arrangements. The kind and degree of impact would depend in part on whether the denial was partial or complete, and in part on its duration. In any case, major production and tanker shifts would be required in order to maximize the oil potential of other Free World sources, principally the U.S. Gulf and nearby areas, and at the expense of Western Hemisphere reserves. The fuel shortages would be severe, especially in Western Europe. Pressure on oil and other fuel prices and tanker rates would be intense.

5. Partial denial (as outlined in Case 1 of this report, pages 16-24) would probably reduce Western Europe's supply of oil by approximately 15 percent of present consumption, but further increases in production elsewhere and rearrangements of transport could eliminate this shortage within a year. By contrast, complete denial (Case 2, pages 24-29), even a year after the initial impact would probably result in a reduction of Western Europe's supply by approximately 30 percent, if the entire burden were borne by that area. If the United States rationed its consumption in order to equalize the loss, the Western European deficiency would be reduced, but the over-all Free World loss would still be about 15 percent of present consumption. In either case denial would result in higher oil costs, a significant dollar drain on West Europe's balance of payments, and a slowdown in energy consumption throughout the Free World, presently growing at a rapid rate.

6. The immediate economic effect of denial on the producing and transit states would not be severe, but after six months or more, and in the absence of external economic assistance, a critical economic situation would exist in those states which depend almost entirely on oil revenues.

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FOREWORD

This preliminary report on the economic implications of the denial of Middle East oil was prepared by representatives of the Department of State, the Department of Interior, the Office of the Secretary of Defense, the International Cooperation Administration, and the Central Intelligence Agency. It has been approved as a preliminary Economic Intelligence Committee report for selected distribution.

This study was prepared on the basis of a brief analysis of available information and limited consultation with oil company sources, and is preliminary in nature. The significance of Middle East oil and the economic impact of denial on the oil-producing and oil-transit states was examined in some detail, however. The principal deficiency is the lack of any detailed appraisal of the supply dislocation and the production and tanker shifts that would be required by the Free World in the event of the conditions postulated under Cases 1 and 2 below. To do this in very specific terms would require detailed analysis of production capabilities, inland transport, tanker routes, tanker supply, and other conditions involving time elements, costs, financing and local needs. The other deficiency is

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the highly tentative nature of the estimated balance of payments effects on Western Europe. Oil balance of payments data are available only for the UK, and these are a consolidation based on the world wide oil operations of British firms.

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ECONOMIC IMPLICATIONS OF THE DENIAL OF MIDDLE EAST OIL

A. Introduction

This study is designed to summarize: (a) the essential facts of Middle East 1/ oil resources and their importance to the West; (b) the feasibility of Middle East oil-producing and oil-transit states denying access to those resources by the Western nations; (c) the economic capabilities of the Sino-Soviet Bloc to exploit such denial; and (d) the economic impact of denial on the U.S., Western Europe and the Middle East area itself.

For purposes of analysis and illustration both a partial and complete denial of Middle East oil has been assumed, as follows:

Case 1 - Suez Canal, Trans-Arabian Pipeline and Iraq Petroleum

Canary's pipelines will be closed for oil movements to the Western nations, and no availability of either crude petroleum or petroleum products from Saudi Arabia and Iraq to the West. 2/ This is the more likely case.

Case 2 - Complete denial of crude petroleum or petroleum products from the Middle East area to the West. This is the extreme case.

1. The Middle East is defined here as the oil-producing and oil-transit states of the area; namely, the Arab states (Saudi Arabia, Iraq, Egypt, Syria, Lebanon and Jordan); the Persian Gulf principalities (Kuwait, Qatar and Bahrain); and Iran.
2. The consequences of loss to the West of Saudi Arabian oil alone are considered in NIP 36-6-96: "Outlook for Saudi Arabia."

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Each of these hypothetical cases is to be studied in terms of its effects (a) six months and (b) two years, after denial of access appears to begin in mid-1956.

Additional working assumptions are:

1. There will be no general war.
2. The Arab States will keep open the oil pipelines for their own use and for possible use by the Sino-Soviet Bloc.
3. The Arab States will keep open the Suez Canal for oil movements by the Sino-Soviet Bloc.
4. All oil tankers registered in Western nations are effectively controlled by the respective governments.
5. Few, if any, American, British, Dutch or French oil technicians employed by present producing companies will be available to run the oil industries in the area; technicians from other Western countries might be employed in small numbers.

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B. Significance of Middle East Oil

1. Reserves and Production. The bulk of the Free World's proved oil reserves lie in the Middle East. The Middle East is the principal oil exporting region and is second only to the U.S. in the production of oil.

The generally accepted minimum figure ^{1/} for proved reserves in the Middle East is about 126 billion barrels. This is 71 percent of the Free World total, indicating a future role of tremendous importance for this area, far beyond its present contribution to world oil supply. Although current annual withdrawals from Middle East oil fields are very large, they bear a much smaller relation to proved crude oil reserves than in any other major oil source. This ratio of withdrawals to reserves is less than 1 percent in the Middle East compared with about 3 percent in the U.S. and 6 percent in Venezuela.

Production of crude oil from the Middle East is now about 3.4 million barrels daily (b/d). This represents about one-fourth of total Free World production of nearly 14 million b/d or about one-half if the U.S. is excluded. About 90 percent of Middle East output is shipped to outside markets, predominantly in the form of crude oil. Most of the rest of Free World production, except for Venezuela and

1. A recent estimate of 230 billion barrels was made by Mr. Wallace E. Pratt, distinguished geologist, who considered even the higher figure conservative. No details are available, however.

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Indonesia, is consumed where produced. Consequently, Middle East oil exports supply more than half of world crude oil exports and more than a quarter of all international commerce in crude oil and refined products.

Middle East crude oil originates primarily in Kuwait and Saudi Arabia, each of which produces roughly one million b/d, and Iraq, whose output is about three-quarters of a million b/d. In Iran, where the industry is still recovering from the effects of its long shutdown, output is about 400,000 b/d but is expected to recover to at least its previous level of 700,000 b/d during the next few years.

Nearly three-fifths of Middle East crude production is credited to U.S. interests, compared with somewhat over one-third for British and British-Dutch interests and the remainder for French interests.

Middle East oil refineries constitute a much less significant proportion of Free World capacity than crude output. In 1955, refinery capacity in the region was about 1.3 million b/d, or about 3 percent of the Free World total. This low percentage reflects the huge refinery expansion programs of the last few years in the major oil consuming markets, mainly in Western Europe, and to a lesser degree in the Indian Ocean area.

2. Free World Dependence on Middle East Oil. Exports from the Middle East averaged about 3.0 million b/d in 1955. Principal destinations were Western Europe (1.9 million b/d), the Western Hemisphere (.4 million) and the Indian Ocean and Far East (.7 million).

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The relative importance of Middle East supplies has grown tremendously since World War II. (See Charts 1 and 2, below.) They now supply nearly 50 percent of Free World oil requirements outside the U.S. In Western Europe dependence is nearly complete, with about 90 percent of its crude supplies coming from the Middle East. Petroleum demand is expanding at the rate of about 15 percent annually. Indigenous fuels in the area consist almost entirely of coal, the production of which has apparently reached economic limits. Increased fuel needs have therefore been met almost entirely by Middle East oil and to a much smaller extent from larger imports of U.S. coal.

The development of Middle East oil supplies has been achieved with a far smaller expenditure of the Free World's resources than would have been required in most other areas. The Middle East wells are the world's most prolific sources of oil and produce at a very low average cost. Even the heavy exploration and development expenditures necessitated by the backwardness of the area and the considerable payments to the local governments have not been great enough to raise the costs per barrel of oil to a level comparable with other major sources.

An accompanying benefit has been the very considerable income and foreign exchange earnings of the Western oil companies. Net income earned by these companies on investment in the Middle East is estimated as a minimum at \$920 million in 1955, of which upwards of 40 percent went to British, British-Dutch and French firms. Gross

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foreign exchange receipts of the U.K., the Netherlands and France are a good deal higher. The availability of large quantities of Middle East oil which Western Europe and other consuming areas have been able to purchase for sterling (and to a minor degree francs) rather than dollars has considerably alleviated their balance of payments difficulties.

Oil production and movement have also created the conditions for economic growth in the Middle East countries themselves by virtue of the vast revenues and foreign exchange earned by the governments and the income and employment derived by the native population. Total oil revenues to governments in the region are estimated at about \$920 million in 1955 while foreign exchange receipts were in excess of \$1 billion. ^{1/} The economic importance of these factors varies among the countries, being greatest in the principal oil producers and least in the oil transit areas.

1. Data on foreign exchange receipts from oil (oil revenues of governments plus local expenditures by oil companies) are lacking for several countries. Estimates for these countries would raise the total of \$1035 million shown in Table 6 to about \$1100 million.

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C. Feasibility of Denial of Oil to the West

1. Legal and other aspects. Denial of oil to the West by the states in the Middle East would amount to suspension or cancellation of the concession and transit privileges granted to the Western-controlled companies operating in the area. There are no effective legal deterrents to the abrogation, temporary or permanent, of any of the agreements involving oil. The concession contracts and transit agreements, though considered as binding long-term undertakings, are arrangements involving a public sovereign body -- the local government -- and private entities -- the oil companies. None is a government-to-government contract. In some of the countries, the local governments could in theory be sued in local courts for enforcement of contracts, but in practice such suits would not be feasible particularly under the assumptions made. Suits in foreign courts would not be possible because of the problem of sovereign immunity of the defendant government. Suits in the International Court of Justice by the parent governments of the companies for the protection of the interests of their nationals would be long drawn out and their feasibility would depend on the political contingencies and the precise legal situation obtaining at the time.

All the concession contracts in the area contain arbitration clauses which have been invoked at various times in disputes between the local governments and the companies. Arbitration is the only practical way to settle differences between the disputants, but is

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unlikely to avail in an atmosphere in which the parties contemplate for political reasons such drastic action as a decree expropriating the properties of the oil companies or the enforcement of an export embargo against the West.

The most potent deterrent to action against the oil concessions in the Foreign Gulf principalities, Kuwait, Bahrain and Qatar, would be British influence and control. The British Government has insisted at various times, however, that basically the decision to grant a concession and the terms thereof was the ruler's, notwithstanding their right of consultation and veto under agreements with the various rulers. In theory, since the concession contracts are concluded exclusively between the local rulers and the companies, the rulers could also alter or cancel them. Any alleged violation of their terms by such action would legally concern solely the parties thereto. The ability of the British to prevent alteration or cancellation would depend not on their legal rights but on their continued control of the principalities.

Closure of the Suez Canal by Egypt to oil movements would involve international treaties, particularly the Constantinople Convention of 1888. The legal position of the governments who are party to these treaties will require careful examination in the light of political and economic contingencies before conclusions can be reached.

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2. Obstacles to Local Operation of the Middle East Oil Industry

a. Technical and economic.

Utilizing only their own resources, the oil-producing and oil-transit states have the capability of operating the oil fields, refineries and pipelines in varying degrees. In general, native capabilities in Iraq, Iran and Bahrain, where both refining and production have been carried on for an extended period, are superior to capabilities in other countries of the area. It is believed that the natives could operate both in production and refining for an extended period, although perhaps at a somewhat reduced rate, and with some possible deterioration in product quality. In Saudi Arabia capabilities in both fields are distinctly less. It is believed that considerable difficulty would be encountered in operating the Ras Tanura refinery and in coordinating related functions, unless it were possible to bring in some of the better trained natives of the countries mentioned above. The level generally would be adequate to meet the relatively low local requirements. Over a period of time extending up to two years, the lack of indigenous supplies of many of the raw materials and spare parts required would adversely affect the level of operations.

The principal difficulty confronting the Middle East states is, however, in the transportation and distribution rather than the production and processing phases. None of these states has its own oil tankers and, without these vital means of shipment, could not

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transport any of the oil to markets outside the Middle East. Even if they could purchase or charter a few tankers from Western sources, they lack the storage, distribution and marketing facilities in Western markets which are necessary for the disposal of oil. The only possibilities in this area are the government-controlled facilities in such states as Argentina but these are relatively limited. Even in those cases, suits filed by the Western oil companies, as when Iran nationalized the oil industry, could prevent or hinder sale of oil which the companies would contend was taken illegally.

b. Assistance from Western sources

Western oil industry management, technology, equipment and tankers are in general either owned or controlled by the major international oil companies operating in the Middle East. The independent engineering, consultant, tanker and related firms in the oil business are closely associated with the majors or are equally opposed to arbitrary government action. They therefore would almost unanimously refrain from rendering aid to the Middle East states.

c. Assistance from Sino-Soviet Bloc

a. Sino-Soviet Bloc oil position

Under the above circumstances, the only substantial oil industry that might be willing and able to assist the Middle East oil producing states exists in the Sino-Soviet Bloc. This capability must be considered in the light of the Bloc's over-all oil position.

In 1956, total Bloc production of crude petroleum is estimated at about 1.9 million b/d, equal to about 55 percent of the entire Middle East output. Not until 1960 will the planned total Bloc output reach 3 million b/d -- slightly below the Middle East level in 1955. The USSR produces over four-fifths of Bloc oil output, Rumania being the other principal source. The Communist Far East, including Communist China, is a major petroleum deficit area in the Bloc. Crude oil and products at the rate of about 75,000 b/d are supplied from the Black Sea, by water, and from the European USSR, by rail, to meet the Far East deficit. All of the current Bloc refining capacity is employed to process Bloc crude oil supplies. Any additional supply of crude oil, such as Middle East oil, could not be refined within the Bloc without a corresponding reduction in indigenous crude oil production.

Current consumption in the Bloc as a whole is somewhat less than production and the Bloc has a slight export balance. In 1955, the net export totalled about 75,000 b/d. Estimates based on the first quarter of 1956 suggest that total net exports for the year 1956 will approximate those for 1955.

b. Supply of personnel, materials and equipment. The Bloc has had access to such Free World technical literature as would permit Bloc personnel to understand Free World practices and techniques in all phases of the petroleum industry. In view of the technological progress of the petroleum industry within the Bloc, supplemented by the knowledge of Free World practices, the Bloc could probably

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immediately make available qualified personnel to supervise and with native workers operate all phases of the Middle East oil complex. During the first six months, the industry could be operated at a level of production equal to at least the maximum tanker lift capabilities of the Bloc.

It is estimated that following six months familiarization or occupancy, and within two years, Bloc personnel could operate the Middle East facilities at any desired level of production up to the present level.

With regard to materials and equipment, it is considered that the Bloc could maintain the physical plant and allied facilities of the Middle East oil industry for a period of six months with the maintenance and replacement supplies currently on hand in the Middle East.

Although about 90 percent of the equipment in the Middle East oil facilities is of U.S. manufacture it is believed that within 2 years the Bloc could provide suitable replacement parts by the manufacture of equipment which meets U.S. standards or by the substitution of Bloc equipment for U.S. equipment. There is evidence that materials and equipment which meet American Petroleum Institute standards have been supplied to the Bloc petroleum industry from its local sources.

c. Water transportation and marketing. Lacking adequate land routes of communication with the Middle East, the Bloc would have to rely on water transport as the only practical medium for the

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movement of Middle East oil from the Persian Gulf or the Eastern Mediterranean oil pipeline terminals in Syria and Lebanon. The Bloc now has an estimated 47 oceangoing tankers ranging from 5,000 to 12,000 cargo deadweight tons, with an average cargo capacity of about 10,000 long tons, and by the end of 1956 is expected to have an additional 6 tankers. Most of these tankers are currently assigned to the Black Sea tanker fleet, and are used principally in the Black Sea -- Far East service and to a lesser degree in the Black Sea -- Poland service.

Virtually all Bloc oil (97 percent) exported to the Free World presently moves in non-Bloc tankers. Optimum use of Bloc tanker lift capacity for Middle East oil service would necessitate a cut-back in the Bloc's own oil movements or continued use of non-Bloc tankers. Exclusive employment of the entire Bloc tanker fleet for the movement of Middle East oil from the pipeline terminals in the Eastern Mediterranean to Western Europe would represent a lift capacity of no more than 150,000 b/d at the end of 1956. In this event other means of transportation (primarily the Trans-Siberian Railroad) would have to be used if that portion of the Soviet Far East and Communist China requirements currently moved by Bloc tankers were to be delivered. Exclusive employment of the entire Bloc tanker fleet for the movement of Middle East oil from the Eastern Mediterranean to the Black Sea would represent a lift capacity of no more than 350,000 b/d at the end of 1956.

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Even this small tanker lift capacity, which at best represents no more than 10 percent of present total Middle East production, overstates the Bloc's practical capabilities for exploiting the contemplated situation. If Free World tankers now engaged in moving the Bloc's exports to Western markets and for transport of some Black Sea oil to Poland were recalled, forcing the Bloc to use only its own tankers, and if the Bloc elected to supply its Western markets following the same pattern as in 1955 (about 110,000 b/d), the Bloc's net capability to move Middle East oil to the Black Sea would be negligible. This would rise to about 50,000 b/d at the end of 1956, an insignificant proportion of current Middle East output.

Aside from the recognized limits of Bloc water transport capabilities, the marketing of Middle East oil by the Bloc in the Free World would be dependent on access to refining, storage and distribution facilities which are presently owned or controlled by Free World countries or oil companies.

d. Economic aid. Whether or not the Bloc intervened in this situation to move Middle East oil, it could also attempt to exploit this situation by offering economic aid to those states which would face economic difficulties. The magnitudes involved would be within the Bloc's economic capabilities.

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D. Effects of Denial of Middle East Oil to the West

1. Case 1 (Pipelines and Canal closed and no Iraqi or Saudi Arabian oil).

a. Western nations.

i. Disruption of supplies. The immediate effect would be the loss of 1.9 million b/d of Middle East oil moving to Western Europe and the much smaller tonnage moving to the Western Hemisphere (0.2 million) via the closed routes, or a total of 2.1 million. Shipments East of Suez to the Indian Ocean and Far East and to the Western Hemisphere largely via the Cape of Good Hope totalling 0.9 million b/d would not be affected.

The drastic cuts in Western Europe's oil supplies would rapidly deplete available inventories and disrupt refining and marketing operations in the absence of replacements from other sources. Oil prices would rise as consumers bid for scarce supplies unless government price controls were imposed promptly. Controls over stocks and distribution in areas of greatest shortage would be necessary. The demand for coal would also be very much greater and, supplies being relatively inelastic in Western Europe, their prices too would quickly rise unless frozen by government action.

These dislocations would be felt while supply sources were being rearranged and tankers rerouted. This would require coordinated redistribution of the Free World tanker fleet; rapid activation of laid-up tankers and maximum tanker construction and conversion; and

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encouragement of crude oil production and refining in areas where they could make their greatest contribution. Extensive governmental and inter-governmental arrangements would be necessary to put these measures into effect.

At the expense of Western Hemisphere reserves, output from the U.S. Gulf area could be increased immediately by about 0.8 million b/d. Tankers to carry this oil would be available from the Eastern Mediterranean -- Western Europe route plus activation of a small number of laid-up ships. Tankers formerly using the Suez Canal could move about 0.7 million b/d via the Cape of Good Hope. The loss to Western Europe (1.9 million b/d) and the Western Hemisphere (0.2 million) would then be reduced from a total of 2.1 million b/d to about 0.6 million b/d for the two areas. If the 1.5 million from both sources were moved entirely to Western Europe, it would suffer a deficit of 0.4 million b/d or about 15 percent of total consumption.

The Middle East areas remaining accessible to the West -- Kuwait, Iran, Bahrain, Qatar, and the Neutral Zone ^{1/}-- are presently producing roughly 1.6 million b/d. This level of output would be unaffected at first since 0.7 million could be rerouted around the Cape to Western Europe and 0.9 million would continue to move to usual markets in the Indian Ocean area, the Far East, and the Western Hemisphere. Although production in these five areas could be expanded rapidly by several hundred thousand b/d, the tanker shortage would make it

1. The Neutral Zone is jointly controlled by Saudi Arabia and Kuwait.

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Impossible to transport it. Since the Free World's tanker fleet is currently almost fully employed, use would have to be made of the shortest routes. This would involve principally a shift from the Persian Gulf -- Cape of Good Hope -- Western Europe route and perhaps the Trans-Pacific route to the much shorter U. S. Gulf -- Western Europe route where the same number of tankers can transport twice the volume. Rearrangement of this type is limited by the short-run elasticity of production in the Western Hemisphere. During the six to twelve months following the emergency, some further increases in Western Hemisphere output would be possible above the 0.8 million b/d already achieved. This would mean additional shipments to Western Europe of 0.2 million b/d, made possible by a shift of tankers from the Cape of Good Hope run. The Western Europe deficit would then be reduced to 0.2 million b/d. After about a year, adjustments in production and transportation would completely eliminate the shortage. The five available producing areas in the Middle East would have been cut back by only about 0.3 million b/d or nearly 20 percent.

Certain economic dislocations would persist, particularly in the face of a continuing upward trend in Western European oil requirements. First, oil costs to Western Europe would rise because of higher f.o.b. prices in the Western Hemisphere, possible further increases in such prices due to greater costs of expanding output from Western Hemisphere sources and transportation to seaboard, and

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higher tanker rates for the longer haul around the Cape. There would also be adverse balance of payments effects for many of the Western European countries. The additional oil supplies from the Western Hemisphere would be almost entirely an additional dollar burden, since present oil imports from the Middle East are being paid for largely in sterling and to a minor extent in francs.

b. Middle East nations.

i. Saudi Arabia, Iraq, Syria, Lebanon, Jordan, and Egypt.

Under Case 1, oil revenues and foreign exchange earnings from oil production would be completely cut off for Saudi Arabia and Iraq; those from oil-transit via pipeline would be lost by Syria, Lebanon, and Jordan; and those from oil movement via Canal disappear for Egypt. The economic impact would vary considerably as among those countries. The hardest hit would be Saudi Arabia which derives 85 percent of its government revenues and about 90 percent of its foreign exchange receipts from oil, followed by Iraq which derives roughly two-thirds of each of these magnitudes from oil. The Syrian Government derives considerable revenue from oil-transit, amounting to roughly one-fourth of that from all normal sources, but in Lebanon,^{1/} Jordan, and Egypt, oil movement is a relatively unimportant source of income.

1. See, however, p.22 below.

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(1) Saudi Arabia. A large percentage of the government's oil earnings is used for uneconomic purposes.^{1/} Expenditures on economic development are small. Most of these earnings are used in making transfer payments to tribal groups as a price for loyalty, and in financing the personal expenditures of the royal family and its retinue, as well as for propaganda and arms purchases. There is comparatively little saving out of earnings for domestic capital formation.

A stoppage in oil operations would have an almost immediate impact upon the Saudi economy, particularly in the oil producing regions of the Persian Gulf. The sharp increase in unemployment would adversely affect local merchants and set in motion a strong deflationary trend even in the very short run. It is questionable whether King Saud has sufficient liquid resources available to offset the loss in wages by oil laborers through transfer payments. Whereas the very short run impact would be confined primarily to one region of the country, in the longer run the economy would be weakened to the point of collapse, especially because of the inability of the King to make his normal "loyalty" transfer payments.

(2). Iraq. The economic impact of the loss of oil exports would be far less in Iraq where complete economic collapse probably would be averted primarily because of the greater development and diversification of the economy.

1. See NIE 36.6-56: Outlook for Saudi Arabia.

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Iraq's financial position was the strongest in its history at the end of 1955. Foreign exchange holdings, as of November 30, totaled \$356 million, mainly in the form of sterling. The cessation of oil exports would not have immediately critical economic consequences. The high level of economic activity outside the oil industry and especially the momentum of the government's development program would tend to outweigh the loss of government revenues from the oil industry. Although there would be some increase in unemployment in the oil producing regions and probably some decline in retail sales, the government could avert serious deflationary trends by compensatory spending. Imports could be sustained by drawing on foreign exchange balances, provided these were not frozen abroad.

In the longer run, however, the government would be faced with serious financial problems. The ambitious development program, which relies almost entirely upon oil revenues, would have to be curtailed and eventually suspended. The sharp drop in government development expenditures would have serious repercussions throughout the economy. A deflationary spiral might evolve which the government would find difficult to halt. This tendency would be reinforced by an estimated 35 percent drop in revenues under the ordinary budget and a \$20 million decline in exchange earnings from oil company expenditures. Although these long-run consequences would be a major catastrophe to the economy, complete economic collapse would not be inevitable.

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because of the actual and potential sources of income from other sectors of the economy, especially agriculture. In order to save foreign exchange for essential imports some form of rigid exchange controls would probably be adopted, and the government would likely strive to promote bilateral and barter trade arrangements with the Bloc.

(3) Syria. Syria is not yet seriously dependent upon earnings from the transit of petroleum across the country. Prior to the agreement with IPC in November 1955, oil revenues comprised a minor government receipt. The 1955 budget estimates were predicated on anticipated payments of about \$2.2 million from the oil companies. The terms of the IPC agreement indicate that oil revenues in 1956, however, may be about 10 times as large. The 1956 budget estimates show payments by oil companies as the major source of revenue in the ordinary budget. The larger part of this increase in 1956 has been ear-marked for the Ministry of Defense.

There would be no serious economic consequences in the very short run. The loss of oil revenues might necessitate some adjustment in the 1956 budget expenditures.

In the longer run, the end of oil revenues might significantly affect Syria's development program, if it were well underway at the time of the emergency. The 1955-60 extraordinary budget was presented to Parliament in 1955. This budget relates to Syria's economic

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development program, and aggregates roughly \$170 million. Revenue for meeting these budget expenditures is expected to come from oil revenues and public borrowing.

(4) Lebanon. Lebanon is not dependent upon oil production or transit. Foreign exchange obtained by payments to the government and local expenditures by oil companies merely represent a minor entry which is of some help in assisting the country in keeping its international payments in balance and providing an extra source of revenue to the government.

The Lebanese economy would not be seriously affected in the short run. There would be a minor unemployment problem, involving about 4,000 laborers in refineries and in pipeline maintenance. Over a longer period, the loss in exchange earnings would have a minor effect upon the balance of payments position, and would probably not be significant enough to pose a major problem of adjustment. In the longer run the unemployed labor from the refineries would at least partially be absorbed in other industries. It should be noted that Lebanon is now negotiating with the Iraq Petroleum Company (IPC) on transit payments. Lebanese politicians are looking forward to much larger revenues in the future, which would form a more important part of the budget revenues. Plans based upon these anticipated revenues would have to be dropped.

If it is assumed that the pipelines crossing Lebanon and Syria continue to carry enough petroleum products for Lebanese and

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Syrian consumption and if the refineries of Saida and Tripoli in Lebanon maintain at least part-time production, loss of revenue from the pipelines and refineries would not seriously dislocate either economy, and partial shut-down of the refineries would not result in appreciable unemployment or unemployment not easily absorbed.

(5) Jordan. Jordan's dependence upon oil transit payments is of little importance. In the very short run, this loss would have no significant repercussions. In the longer run the loss of these revenues could either be absorbed by the economy, or compensated for by capital inflows, either from the UK or from the Arab states. The general economy would probably not be affected in any important way.

(6) Egypt. Egypt's exchange earnings from Suez Canal oil movements constitute a sizeable receipt in the country's balance of payments. In 1954 these earnings spelled the difference between a small surplus and a small deficit on current account. There would be some immediate impact in the Suez Canal region following the closing of the Canal for oil transit. Employment would decline slightly, possibly necessitating some transfer payments to distressed families in the region. The longer run effect would be somewhat more significant. Exchange earnings from this source, though minor in relative terms, could affect the country's development program and their loss would to some extent impair Egypt's ability to

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procure goods from the free world. Egypt might be encouraged to increase its barter trade with the Bloc.

ii. States remaining in production. There would be relatively little impact on Kuwait, Iran, Qatar, or Bahrain since their output, even after all necessary tanker adjustments were made, would be reduced by no more than one-fifth. 1/ The bulk of this decline could be absorbed by Kuwait and Iran without noticeable economic effect. It would be necessary for Iran or Kuwait to replace the crude oil formerly imported by the Bahrain refinery in large amounts from Saudi Arabia.

2. Case 2 (No Middle East oil available to the West).

a. Western nations. The denial to Western markets of over 3 million b/d of oil from the Middle East would greatly intensify the problems in the early months described under Case 1. The controlling or limiting factor would change from ocean transport to oil availability. Spare oil productive capacity does not exist elsewhere in the Free World to replace immediately a loss of supply of this magnitude. Within the first year, output in the US Gulf and nearby areas could be increased by 1.2 million b/d at the expense of Western Hemisphere reserves. Even so, the free world would still be short nearly 2 million b/d, or roughly 15 percent of current consumption. Unless the US also restricted its consumption, this loss would

1. See pages 16 and 17 above.

be concentrated in Western Europe and would be equivalent to 80 percent of its present consumption. By contrast, civilian consumption in the US during World War II was cut back by 12 percent.

Prices of oil and of coal would be under far more pressure than under Case 1. Similarly, the loss of all sterling (as well as dollar) oil from the Middle East, would mean a radical shift in Western Europe's oil balance of payments. Virtually all imports would now have to be paid for in dollars, imposing a considerable strain on various countries. The UK would bear the brunt since it would not only have to meet its internal requirements with dollar oil but would also expend dollars for the oil needs of other members of the sterling area. Moreover, its dollar sales of oil 1/ would end, being only partially offset by decreased local expenditures in dollars. 2/

Some relief for the fuel shortage might be afforded from expanded US coal production, presently operating below capacity. The economical way to accomplish this would be to shift certain uses from oil to coal in the US, thus releasing additional US oil for the rest of the free world. Transport of US coal to Western Europe in

1. Principally from Shell's sales of residuals on the East Coast of the US, which would now have to be diverted to the UK, and Kuwait oil exports to the US, which would no longer be possible.
2. Such as Iran's dollar conversions.

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any substantial amounts above current levels would involve almost prohibitive freight costs. Production of natural gas could also be expanded to some extent in the US to alleviate the fuel deficit. Rationing in the US and elsewhere would still be required during this period, however.

After about a year, with the oil industry operating under emergency conditions and at considerably higher costs of production and of internal transportation, production in the Western Hemisphere, and to some extent in Indonesia, could increase sufficiently to replace roughly 2 out of the 3 million b/d of Middle East oil formerly supplied to the West. Since oil consumption is steadily rising, however, with 1956 use expected to be at least three-quarters of a million b/d higher than in 1955, restrictions on consumption would be even greater than is indicated by the one million b/d cut in supply. Moreover, the oil cost problem and dollar oil balance of payments difficulties would be very much aggravated. Western Europe as a whole would have an added dollar expenditure of nearly \$2 billion annually, at present oil prices and tanker rates, of which roughly one-third would have to be borne by the UK. 1/

b. Middle East nations. The oil states virtually unaffected under Case 1 now cease production entirely under Case 2.

1. [redacted] British oil companies would sell for dollars in Western Europe. If, however, they continued to sell for sterling, the dollar burden on the UK would be considerably larger.

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The economic importance of the oil industry to each of them is considerable. In Kuwait, revenues and foreign exchange earnings from oil each approximate \$300 million, constituting virtually the entire source of such income. In Qatar, while oil receipts are very much smaller than in Kuwait, they are relatively as significant. In Iran, oil revenues were expected to reach \$90 million in 1955/56 and exchange receipts about \$130 million, representing about 40 percent and 50 percent of their respective totals. In Bahrein, oil revenues are nearly \$9 million and exchange receipts nearly \$29 million, or three-quarters and one-half of the respective totals from all sources.

1. Kuwait. Since 1946 the Kuwait economy has become almost entirely dependent upon oil operations, and has built up large foreign exchange reserves. In the very short run, there would be a significant deflationary trend growing out of the increase in unemployment and the drop in expenditures by the oil companies. However, there would probably not be a serious economic crisis. Nearly one-half of the government's oil revenues goes into an economic development program which has been lagging. By drawing down its large foreign assets, unless these were frozen abroad, the government could offset this deflationary trend by stepping up its development program and by making transfer payments to oil laborers. For as much as one year the government could, through compensatory fiscal measures, probably maintain economic stability at near the present level. After that period, however, it would face economic

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collapse unless external aid were forthcoming. There are no significant resources aside from oil and the merchant class is essentially dependent upon oil earnings.

ii. Iran. Oil production was resumed during the latter part of 1954 after a shutdown of over three years. Oil revenues are expected to rise sharply as output expands to pre-nationalization levels. All but ten percent of government revenues from oil is planned to finance the development program presently getting underway. About half of this year's imports will be financed by foreign exchange derived from the oil industry.

Another shutdown of the oil industry would not necessarily involve a significant curtailment of economic activity in the short run. Some tightening of foreign exchange regulations and related measures would ensue. Over the longer run, not only would the development program come to a halt but the problems of unemployment, inflation, and balance of payments deficit would become serious.

iii. Qatar. The economy of Qatar is almost exclusively dependent upon oil. The Sheikh reserves about one-quarter of the oil receipts and the remainder is spent on utilities, construction, and government services. Stoppage of oil movement would probably have serious but not critical economic consequences in the short run. Unemployed labor would tend to resume nomadic habits. The Sheikh's resources, if made available, would probably permit the maintenance of essential government services but construction most likely would be

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halted entirely. Much of the population would tend to migrate to other sources of employment.

iv. Bahrein. The Bahrein economy is also almost totally dependent upon oil. Activities of merchants, middlemen and smugglers provide significant amounts of foreign exchange, but these in turn are dependent in large measure upon oil. Prior to the discovery of oil the standard of living was low and the primitive economy dependent largely upon the now insignificant pearlind industry. In recent years, petroleum refining has become an increasingly important activity.

The closing of the oil fields and of the large oil refinery would have an almost immediate impact upon the economy. Living standards would fall sharply. Conceivably, the Sheikh could take money from his Privy Fund, estimated at roughly \$3.0 million in 1955 or from overseas investments if available, to offset the deflation. In the longer run, the economic situation in Bahrein would become desperate. There are no resources available even partially to offset the loss of income from a cessation of oil operations. Because of the lessened importance of pearlind, the economic level would probably sink below the pre-oil period.

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Table 1

PROVED CRUDE OIL RESERVES IN THE MIDDLE EAST, BY COUNTRY, SELECTED YEARS
(in millions of barrels)

| | 1947 | 1953 | 1954 | 1955 |
|-----------------------|--------------|---------------|---------------|---------------|
| Bahrein | 300 | 280 | 215 | 205 |
| Egypt | 137 | 140 | 92 | 150 |
| Iran | 9,500 | 15,000 | 15,000 | 27,000 |
| Iraq | 7,500 | 13,000 | 14,250 | 20,000 |
| Kuwait | 5,000 | 20,000 | 30,000 | 40,000 |
| Neutral Zone | -- | 300 | 429 | 500 |
| Qatar | 250 | 1,500 | 1,500 | 1,500 |
| Saudi Arabia | <u>6,000</u> | <u>28,000</u> | <u>36,000</u> | <u>37,000</u> |
| Total | 28,678 | 78,220 | 97,486 | 126,355 |
| Percent of Free World | 46.0 | 62.4 | 66.3 | 71.0 |

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Table 2

CRUDE OIL PRODUCTION IN THE MIDDLE EAST, BY COUNTRY, SELECTED YEARS
(thousands of barrels per day)

| | 1947 | 1953 | 1954 | 1955 | Jan. 1956 |
|-----------------------|--------------|--------------|--------------|--------------|----------------|
| Bahrein | 25.8 | 30.1 | 30.1 | 30.1 | 30.0 |
| Egypt | 23.6 | 45.2 | 37.7 | 34.5 | 34.4 |
| Iran | 424.6 | 25.7 | 61.4 | 328.0 | 363.0 |
| Iraq | 98.2 | 576.1 | 625.8 | 692.0 | 725.0 |
| Kuwait | 44.5 | 861.9 | 951.6 | 1,092.0 | 1,125.0 |
| Neutral Zone | -- | -- | 16.4 | 24.0 | 29.0 |
| Qatar | -- | 85.0 | 99.9 | 115.0 | 120.0 |
| Saudi Arabia | <u>246.2</u> | <u>844.6</u> | <u>953.0</u> | <u>965.0</u> | <u>1,000.0</u> |
| Total | 862.9 | 2,468.6 | 2,775.9 | 3,280.6 | 3,426.4 |
| Percent of Free World | 11.3 | 20.9 | 22.6 | 24.0 | 23.9 |

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Table 3

OWNERSHIP OF 1955 MIDDLE EAST CRUDE OIL PRODUCTION BY CAPITAL CONTROL
(thousands of barrels per day)

| | British British-Dutch | American | French | Total |
|--------------|--------------------------|--------------|--------|--------------|
| Bahrein | -- | 30.1 | -- | 30.1 |
| Egypt | 28.4 | 6.1 | -- | 34.5 |
| Iran | 177.1 | 131.2 | 19.7 | 328.0 |
| Iraq | 363.2 a/ | 164.4 | 164.4 | 692.0 |
| Kuwait | 546.0 | 546.0 | -- | 1,092.0 |
| Neutral Zone | -- | 24.0 | -- | 24.0 |
| Qatar | 60.4 a/ | 27.3 | 27.3 | 115.0 |
| Saudi Arabia | -- | <u>965.0</u> | -- | <u>965.0</u> |
| Total | 1,175.1 | 1,894.1 | 211.4 | 3,280.6 |
| Percent | 35.8 | 57.7 | 6.5 | 100.0 |

a. Gulbenkian's five percent share included in British-Dutch share.

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TABLE 4

CAPACITY OF PETROLEUM REFINERIES IN THE MIDDLE EAST
BY COUNTRY AND IN THE FREE WORLD, SELECTED YEARS

(thousands of barrels per day)

| | 1949 | 1953 | 1954 | 1955 |
|-----------------------|------------|------------|------------|------------|
| Aden | -- | -- | 120 | 120 |
| Bahrein | 150 | 187 | 187 | 187 |
| Egypt | 39 | 53 | 53 | 53 |
| Iran | 503 | 503* | 503* | 503 |
| Iraq | 9 | 10 | 47 | 47 |
| Israel | 84 | 84 | 84 | 84 |
| Kuwait | 25 | 30 | 30 | 30 |
| Lebanon | 6 | 16 | 18 | 18 |
| Qatar | -- | -- | 1 | 1 |
| Saudi Arabia | <u>140</u> | <u>189</u> | <u>216</u> | <u>216</u> |
| Total Middle East | 956 | 1,072 | 1,259 | 1,259 |
| Percent of Free World | 9.1 | 7.6 | 8.3 | 7.9 |
| Total Free World | 10,544.7 | 14,132.6 | 15,186.6 | 15,887.1 |

* Shut down from July 1951 through October 1954.

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Table 5

CRUDE OIL SUPPLY OF WESTERN EUROPE BY SOURCE AND BY COUNTRY, 1954

(thousands of barrels per day)

| | Local Production | Imports | | Supply |
|-------------------|---------------------|-------------|-----------|------------|
| | | Middle East | Other | |
| Belgium | -- | 75 | 4 | 79 |
| France | 10 | 449 | 29 | 488 |
| West Germany | 52 | 105 | 15 | 172 |
| Netherlands | 18 | 161 | 32 | 211 |
| United Kingdom | 1 | 490 | 48 | 539 |
| Italy and Trieste | 2 | 305 | 13 | 320 |
| Other West Europe | <u>4</u> | <u>86</u> | <u>10</u> | <u>100</u> |
| Total | 87 | 1,671 | 151 | 1,909 |
| Percent | 4.6 | 87.5 | 7.9 | 100.0 |

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Table 6

ESTIMATED GOVERNMENT REVENUES AND FOREIGN EXCHANGE RECEIPTS FROM OIL
PRODUCTION AND TRANSIT IN THE MIDDLE EAST, BY COUNTRY, 1955
(expressed in dollars)

| Country | Government revenues | Percent of total from all sources | Foreign ex-change earnings | Percent of total from all sources |
|--------------|---------------------|-----------------------------------|----------------------------|-----------------------------------|
| Bahrein | 8,900,000 | 77 | 28,900,000 | 52 |
| Egypt a/ | 24,000,000 | 4 | 9,500,000 | 1 |
| Iran b/ | 90,000,000 | 40 | 130,000,000 | 52 |
| Iraq | 206,000,000 | 67 | 226,000,000 | 69 |
| Jordan | 1,000,000 | 3 | n a | n a |
| Kuwait | 280,000,000 | 98 | 300,000,000 | 97 |
| Lebanon | 2,300,000 | 4 | 10,500,000 | 5 |
| Qatar | 25,000,000 | 95 | n a | n a |
| Saudi Arabia | 261,000,000 | 85 | 330,000,000 | 90 |
| Syria c/ | <u>22,000,000</u> | 25 | <u>n a</u> | <u>n a</u> |
| Total | 920,200,000 | | 1,034,900,000 | |

- a. 1954 estimate based only on oil movements through Suez Canal.
Excludes revenues and exchange from small local oil production.
- b. 1955/56 estimate.
- c. 1956 estimate.

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Table 7

ESTIMATED SINO-SOVIET BLOC PETROLEUM SUPPLY/DEMAND BALANCE, 1955 AND 1956
 (thousands of barrels per day) g/

| | 1955 | 1956 |
|---|--------------|--------------|
| Crude Petroleum Production | | |
| USSR | 1,400 | 1,600 |
| European Satellites | 270 | 270 |
| Communist China | 20 | 24 |
| Total Bloc | <u>1,700</u> | <u>1,900</u> |
| Bloc Crude Petroleum - Imports b/ | 26 | 26 c/ |
| Exports d/ | 20 (10) e/ | 21 f/ |
| Bloc Net Crude Petroleum Availability | 1,700 | 1,900 |
| Bloc Petroleum Product Output g/ | 1,500 | 1,700 |
| Bloc Petroleum Product - Import h/ | 7 | n.s. |
| Export i/ | 89 (78) g/ | 60 g/ |
| Bloc Petroleum Product Net Availability | 1,400 | 1,700 |

- a. All quantities have been rounded to two significant figures. Totals may not agree with sum of components due to rounding.
- b. From Austria.
- c. Based on a reparations payment of 1.3 million tons of Austrian crude oil during the year 1956.
- d. To Free World.
- e. First quarter 1955.
- f. Based on available information for 1st quarter 1956. The estimates for the 1st quarter suggest that the combined total of crude and products in 1956 may be approximately equal to the combined total for 1955. However, crude oil exports may represent a greater portion of the combined total for 1956.
- g. Based on 87 percent yield of products from net crude oil availability.

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Table 8

 POTENTIAL CRUDE OIL PRODUCTION IN THE FREE WORLD
 UNDER EMERGENCY CONDITIONS, 1959

(thousands of barrels per day)

| | 1955 Actual | Potential (Readily Available) | Difference from 1955 actual | (Available after 6-12 Mos.) | Difference from 1955 Actual |
|------------------------------------|----------------|-------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Canada | 354.0 | 700.0 | 346.0 | 850.0 | 496.0 |
| United States | 6,790.0 | 8,600.0 | -1,810.0 | 8,700.0 | 1,910.0 |
| Total US and Canada | 7,144.0 | 9,300.0 | -2,156.0 | 9,550.0 | 2,406.0 |
| Mexico | 245.0 | 285.0 | 40.0 | 300.0 | 55.0 |
| Venezuela | 2,157.0 | 2,350.0 | 193.0 | 2,500.0 | 343.0 |
| Other | 178.0 | 201.5 | 23.5 | 210.0 | 32.0 |
| Total Caribbean | 2,580.0 | 2,836.5 | 256.5 | 3,010.0 | 430.0 |
| Other Latin America | 158.0 | 171.1 | 13.1 | 180.3 | 22.3 |
| Europe | 109.0 | 138.2 | 29.2 | 143.0 | 34.0 |
| Mediterranean (excluding Egypt) | 4.0 | 4.0 | 0.0 | 4.0 | 0.0 |
| Africa - N & S (Nigeria) | 0.0 | 5.0 | 5.0 | 7.5 | 7.5 |
| Bahrain | 30.0 | 30.0 | 0.0 | 30.0 | 0.0 |
| Egypt | 34.0 | 34.0 | 0.0 | 34.0 | 0.0 |
| Iran | 328.0 | 900.0 | 572.0 | 1,000.0 | 672.0 |
| Iraq (Kirkuk) | 602.0 | 527.0 | (75.0 | 687.0 | 215.0 |
| Iran (Rasrat) | | 200.0 | (200.0 | 220.0 | |
| Kuwait | 1,092.0 | 1,450.0 | 358.0 | 1,500.0 | 408.0 |
| Neutral Zone | 24.0 | 50.0 | 26.0 | 50.0 | 26.0 |
| Qatar | 115.0 | 126.0 | 11.0 | 138.0 | 23.0 |
| Saudi Arabia | 965.0 | 1,075.0 | 110.0 | 1,275.0 | 310.0 |
| Total Middle East | 3,250.0 | 4,322.0 | 1,112.0 | 4,934.0 | 1,684.0 |
| Far East | 383.0 | 637.1 | 25.1 | 468.4 | 105.1 |
| Free World Total | 13,658.0 | 17,283.9 | 3,625.9 | 18,317.2 | 4,659.2 |

NOTE: Potential availability has been calculated without reference to possible increased costs of production. Moreover, in most cases, no consideration has been given to the adequacy of transportation facilities for movement of oil to markets.

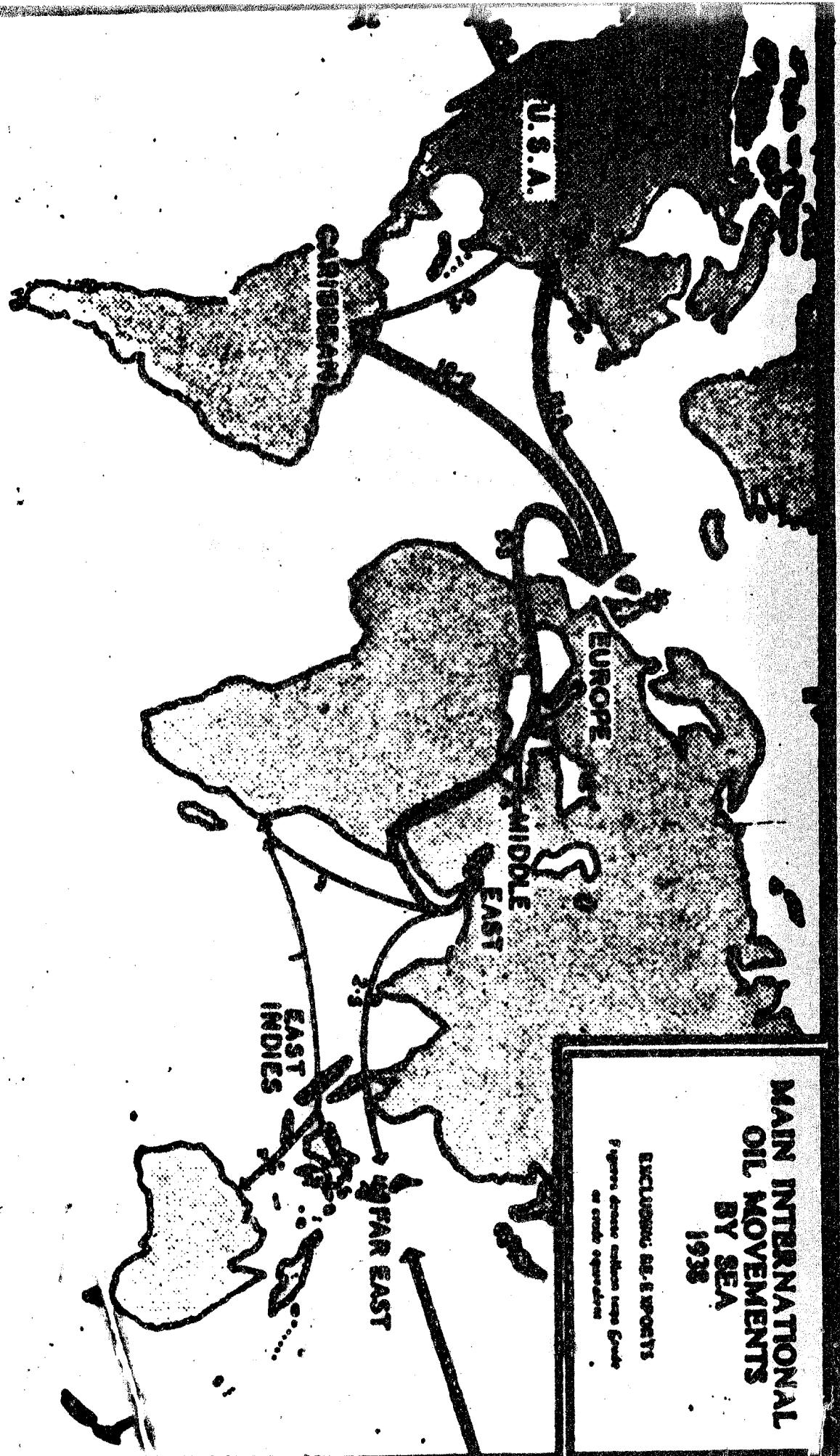
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CHART 1

MAIN INTERNATIONAL
OIL MOVEMENTS
BY SEA
1955

EXCLUSIVE U.S. REPORTS

Figure shows actual tonnage
of crude exports



From "Iraq Petroleum" 1955.

MAIN INTERNATIONAL OIL MOVEMENTS

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九五

EXCLUDING RE-EXPORTS

Please denote millions tons. Create or create equivalent.

